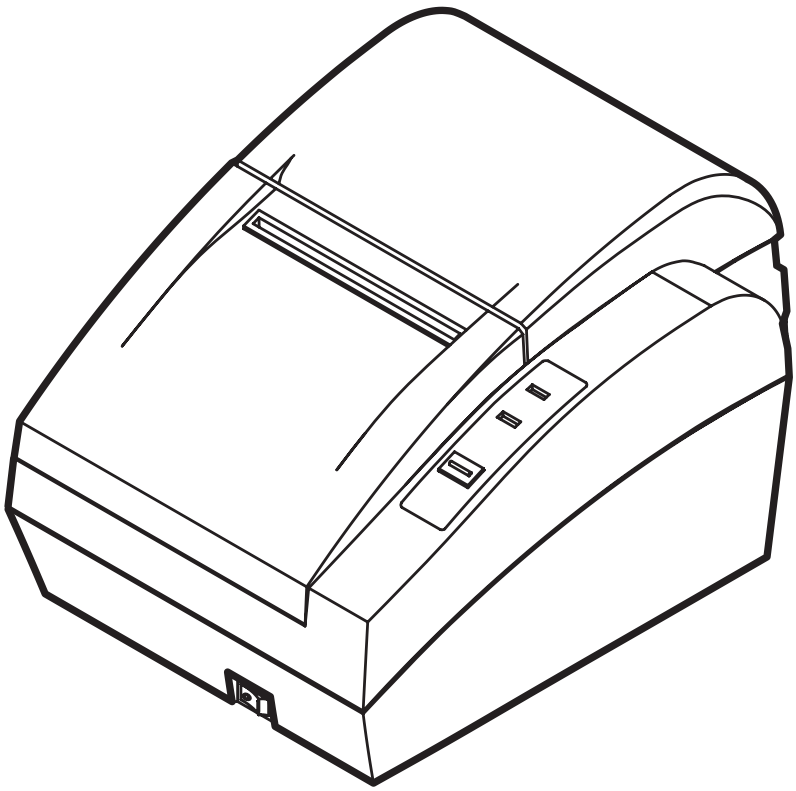
BIXOLON®

User's Manual

STP-131

Thermal Printer
Rev. 1.04



http://www.bixolon.com

■ Safety Precautions

In using the present appliance, please keep the following safety regulations in order to prevent any hazard or material damage.

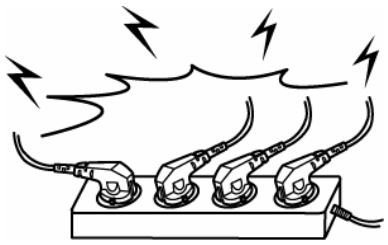
WARNING

Violating following instructions can cause serious injury or death.

Do not plug several products in one multi-outlet.

- This can provoke over-heating and a fire.
- If the plug is wet or dirty, dry or wipe it before usage.
- If the plug does not fit perfectly with the outlet, do not plug in.
- Be sure to use only standardized multi-outlets.

PROHIBITED



You must use only the supplied adapter.

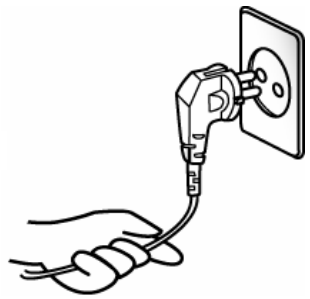
- It is dangerous to use other adapters.

PROHIBITED

Do not pull the cable to unplug.

- This can damage the cable, which is the origin of a fire or a breakdown of the printer.

PROHIBITED



Keep the plastic bag out of children's reach.

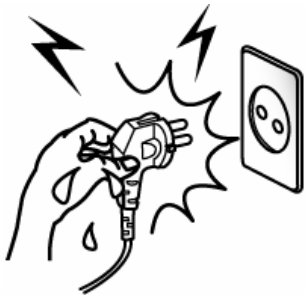
- If not, a child may put the bag on his head.

PROHIBITED

Do not plug in or unplug with your hands wet.

- You can be electrocuted.

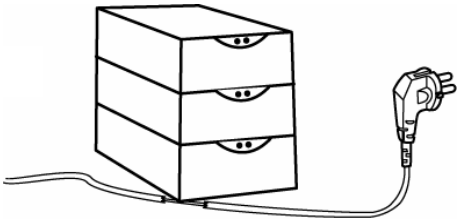
PROHIBITED



Do not bend the cable by force or leave it under any heavy object.

- A damaged cable can cause a fire.

PROHIBITED



CAUTION

Violating following instructions can cause slight wound or damage the appliance.

If you observe a strange smoke, odor or noise from the printer, unplug it before taking following measures.

- Switch off the printer and unplug the set from the mains.
- After the disappearance of the smoke, call your dealer to repair it.

TO UNPLUG

Keep the desiccant out of children's reach.

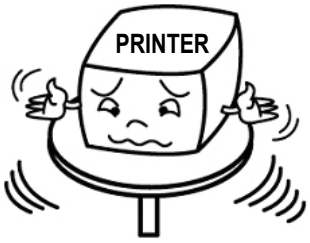
- If not, they may eat it.

PROHIBITED

Install the printer on the stable surface.

- If the printer falls down, it can be broken and you can hurt yourself.

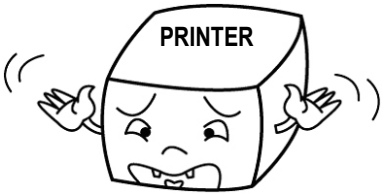
PROHIBITED



Use only approved accessories and do not try to disassemble, repair or remodel it for yourself.

- Call your dealer when you need these services.
- Do not touch the blade of auto cutter.

DISASSEMBLING PROHIBITED



Do not let water or other foreign objects in the printer.

- If this happened, switch off and unplug the printer before calling your dealer.

PROHIBITED

Do not use the printer when it is out of order. This can cause a fire or an electrocution.

- Switch off and unplug the printer before calling your dealer.

TO UNPLUG

■ Warning - U.S.A

This equipment has been tasted and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and uses in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

This equipment has been tasted and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

■ Notice - Canada

This Apparatus complies with class "A" limits for radio interference as specified in the Canadian department of communications radio interference regulations.
Get appareil est conforme aux normes class "A" d'interference radio tel que specifier par ministre canadien des communications dans les reglements d'interference radio.

■ Waste Electrical and Electric Equipment (WEEE)

This marking shown on the product or its literature, indicates that is should not be disposed with other household wastes at the end of its working life, To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources. Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take this item for environmentally safe recycling. Business users should contact their supplier and check the terms and conditions of the purchase contract. This product should not be mixed with other commercial wastes for disposal.

■ Label Material : PET

■ Caution

Some semiconductor devices are easily damaged by static electricity. You should turn the printer "OFF", before you connect or remove the cables on the rear side, in order to guard the printer against the static electricity. If the printer is damaged by the static electricity, you should turn the printer "OFF".

■ Introduction

The STP-131 Series Roll Printer are designed for use with electronic instruments such as system ECR, POS, banking equipment peripheral equipment, etc.

The main features of the printer are as follows:

1. High speed printing : 23 lines per second.

2. Low noise thermal printing.

3. RS-232(STP-131S Series), Parallel(STP-131P Series)

4. The data buffer allows the unit to receive print data even during printing.

5. Peripheral units drive circuit enables control of external devices such as cash drawer.

6. Characters can be scaled up to 64 times compared to it's original size.

7. Bar code printing is possible by using a bar code command.

8. Different print densities can be selected by DIP switches.

Please be sure to read the instruction in this manual carefully before using your new STP-131 Series.

※ NOTE
The socket-outlet shall be near the equipment and it shall be easy accessible.

※ All specifications are subjected to change without notice.

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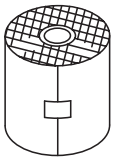
1. Setting Up the Printer

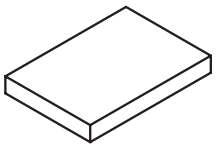
1-1 Unpacking

Your printer box should include these items.
If any items are damaged or missing, please contact your dealer for assistance.

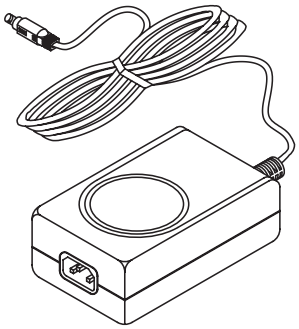
STP-131 Printer



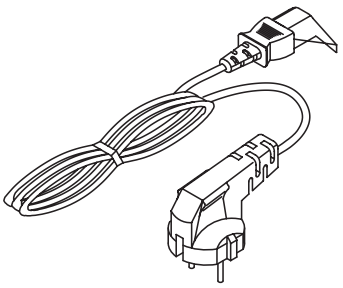
Roll Paper



Manual



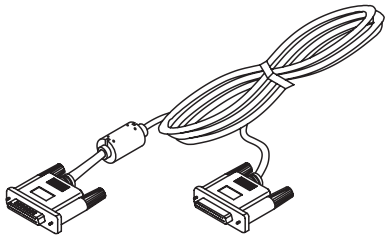
AC Adapter



Power Cable

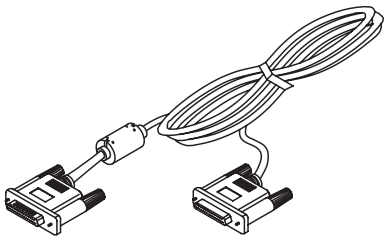
CD

※ Interface Cable (Option)



25 pin 25 pin

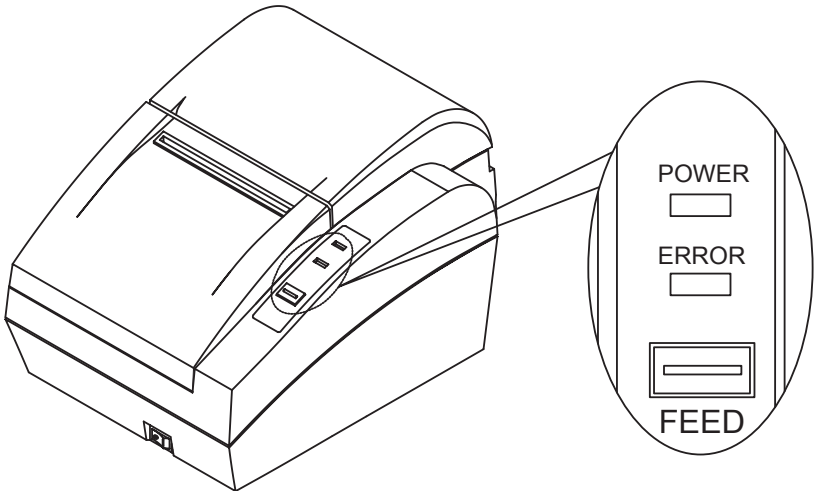
Parallel Cable



9 pin 25 pin

Serial Cable

1-2 Functions



FEED Button

Press the FEED button once to advance paper one line.

You can also hold down the FEED button to feed paper continuously

Indicator Lights

POWER (green)
The POWER light is on whenever the printer is on.

ERROR (red)
The error LED blinks fast when paper is out.
The error LED blinks when the Near End Sensor triggered.

※ NOTE
Both Power and Error LED is blank when the Printer Cover is open.

1-3 Adjustments and Settings

The STP-131 Series is set up at the factory to be appropriate for almost all users. It does, however, offer some settings for users with special requirements.

It has DIP switches that allow you to change communication settings, such as handshaking and parity check, as well as print density.

This STP-131 Series also has a near-end sensor for the paper. This can give you a warning when the paper is almost out. If you find that there is not enough paper remaining on the roll when the paper low is triggered, the Error LED(Red) is turn on.

2. Connecting the cables

※ NOTE
Before connecting any of the cables, make sure that both the printer and the host are turned off.

2-1 Connecting the Power Supply

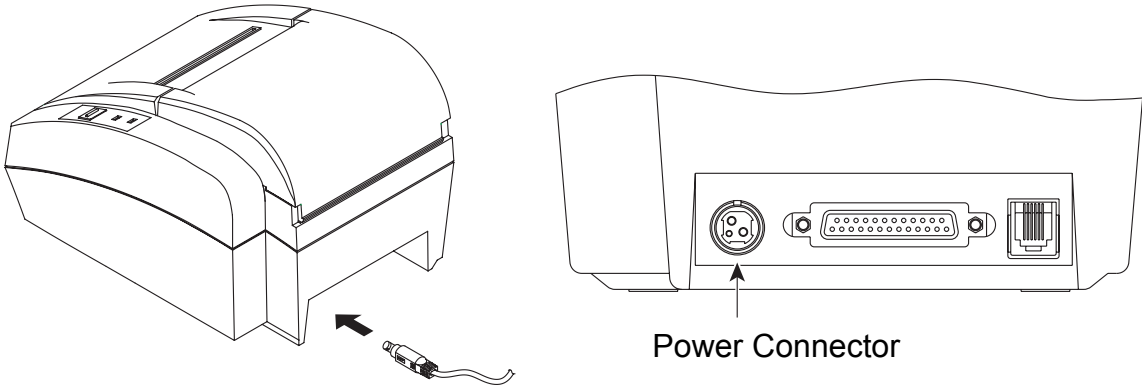
※ CAUTION
When connecting or disconnecting the power supply from the printer, make sure that the power supply is not plugged into an electrical outlet. Otherwise you may damage the power supply or the printer.

If the power supply's rated voltage and your outlet's voltage do not match, contact your dealer for assistance. Do not plug in the power cord. Otherwise, you may damage the power supply or the printer.

- Make sure that the Printer's power switch is turned off, and the power supply's power cord is unplugged from the electrical outlet.

- Check the label on the power supply to make sure that the voltage required by the power supply matches that of your electrical outlet.

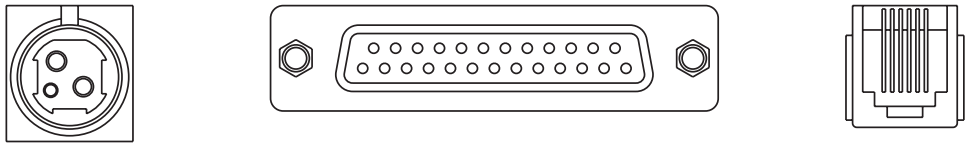
- Plug in the power supply's Adapter cable as shown below. Notice that the flat side of the plug faces down.



※ NOTE
To remove the DC cable connector grasp the connector at the arrow and pull it straight out. Make sure that the main unit's power cord is unplugged before you disconnect the DC cable connector

2-2 Connecting the Interface Cables

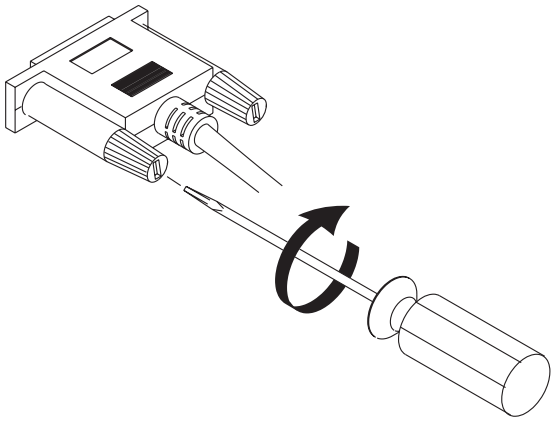
You need an appropriate interface cable.



Interface Connector
(Serial or Parallel)

- Plug the cable connector securely into the printer's interface connector.

- Tighten the screws on both sides of the cable connector.



- Attach the other end of the cable to the computer.

2-2-1 STP-131S Serial Interface

Pin No.	Signal name	Direction	Function
	FG.	-	Frame Ground
20	TxD	Output	Transmit Data
19	RxD	Input	Receive Data
21	CTS	Input	Clear To Send
22	SG	-	Signal Ground
18	RTS	Output	Request To Send

PRINTER			HOST	
20	TXD(O)	----------	2	RXD(I)
19	RXD(I)	----------	3	TXD(O)
18	RTS(O)	----------	8	CTS(I)
21	CTS(I)	----------	7	RTS(O)
22~25	FG,SG (GND)	----------	5	FG,SG (GND)
		CONNECT	4	DTR(O)
			6	DSR(I)

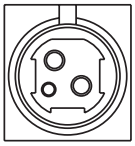
2-2-2 STP-131P Parallel Interface

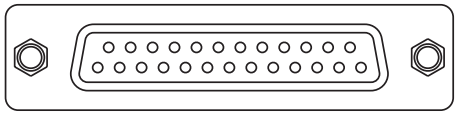
PRINTER	
1	/STROBE(I/O)
2	DATA0(I/O)
3	DATA1(I/O)
4	DATA2(I/O)
5	DATA3(I/O)
6	DATA4(I/O)
7	DATA5(I/O)
8	DATA6(I/O)
9	DATA7(I/O)
10	/ACK(I)
11	BUSY(I)
12	PE(I)
13	SLCT
15	/ERROR(I)
22~25	GND
25 PINE MALE	

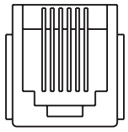
HOST	
1	/STROBE(I/O)
2	DATA0(I/O)
3	DATA1(I/O)
4	DATA2(I/O)
5	DATA3(I/O)
6	DATA4(I/O)
7	DATA5(I/O)
8	DATA6(I/O)
9	DATA7(I/O)
10	/ACK(I)
11	BUSY(I)
12	PE(I)
13	SLCT
15	/ERROR(I)
18~25	GND
25 PINE MALE	

※ 14, 16~21 : NC

2-3 Connecting the Drawer







Drawer Kick-out Connector

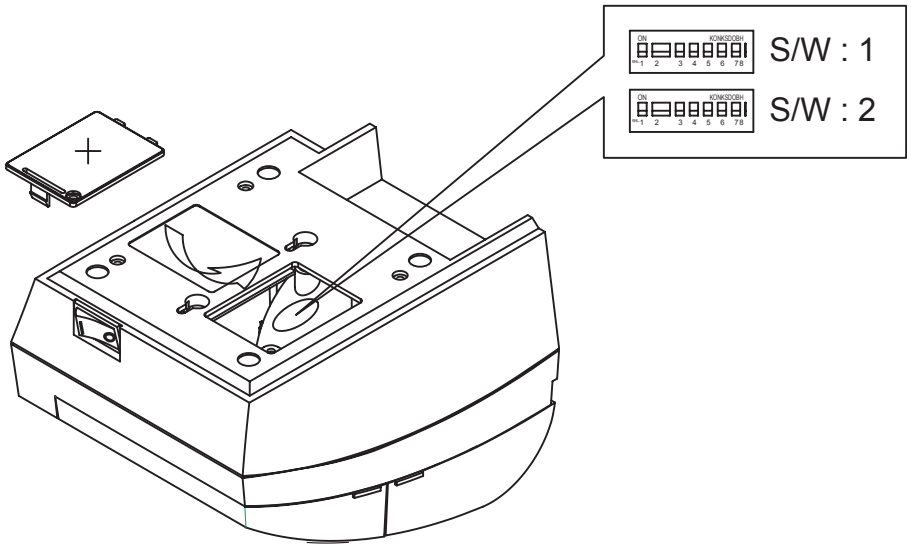
※ WARNING
Use a drawer that matches the printer specification. Using an improper drawer may damage the drawer as well as the printer.

※ CAUTION
Do not connect a telephone line to the drawer kick-out connector; otherwise the printer and the telephone line may be damaged.

Plug the drawer cable into the drawer kick-out connector on the back of the printer next to the power supply connector.

Pin No.	Signal name	Direction
1	Frame ground	-
2	Drawer kick-out drive signal 1	Output
3	Drawer open/close signal	Input
4	+24V	-
5	Drawer kick-out drive signal 2	Output
6	Signal ground	-

3. Setting the Dip Switches



No.	Dip Switch 1				
	Level	BPS	S/W1	S/W2	S/w3
1	1	2400	ON	OFF	OFF
	2	4800	OFF	ON	OFF
2	3	9600	OFF	OFF	ON
	4	19200	ON	OFF	ON
3	5	38400	ON	ON	OFF
	6	57600	OFF	ON	ON
	7	115200	ON	ON	ON
Function		ON		OFF	
4	Density	Dark		Normal	
5	Handshaking	Xon/Xoff		DTR/DSR	
6	Auto Feeding	With cutting		Without cutting	
7	-				
8	Not used. Fixed to On				

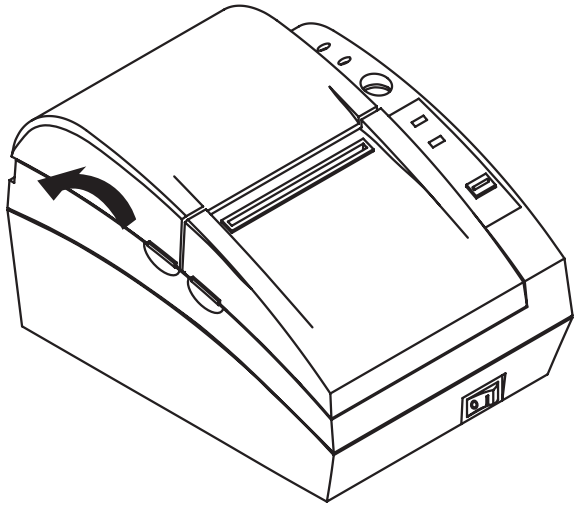
No.	Dip Switch 2			
	Function	ON	OFF	
1	Auto cut	Full Cut	Partial Cut	
Parity		None Parity	Even Parity	Odd Parity
2		OFF	ON	ON
3		OFF	OFF	ON
4	Not used. Fixed to OFF			
5	Not used. Fixed to OFF			
6	Not used. Fixed to OFF			
7	Not used. Fixed to OFF			
8	Not used. Fixed to OFF			

4. Roll Paper Installation

※ NOTE
Be sure to use paper rolls that specifications. Do not use paper rolls that have the paper glued to the core because the printer cannot detect the paper end correctly.

4-1 Make sure that the printer is not receiving data; otherwise, data may be lost.

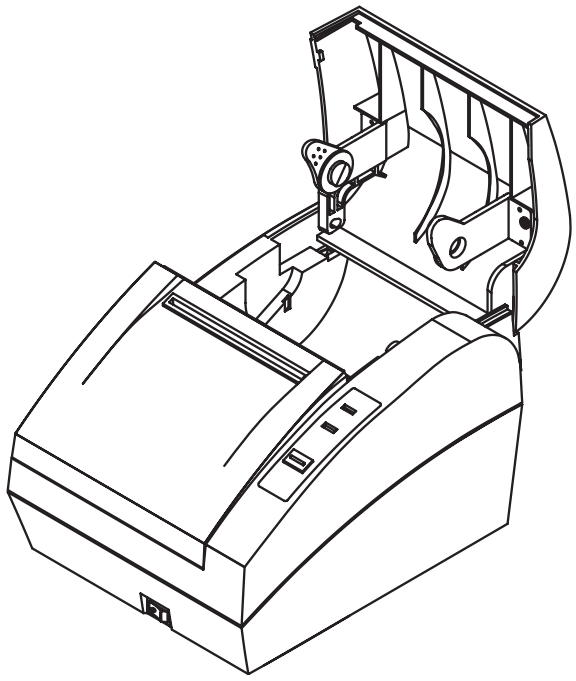
4-2 Open the paper roll cover by pull up the cover.
You must turn on the printer before replace the paper roll.



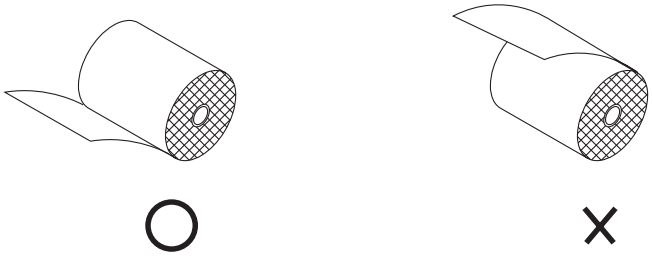
※ NOTE
Do not open the print cover while the printer is operating.
This may damage the printer.

4-3 Remove the used paper roll core if there is one.

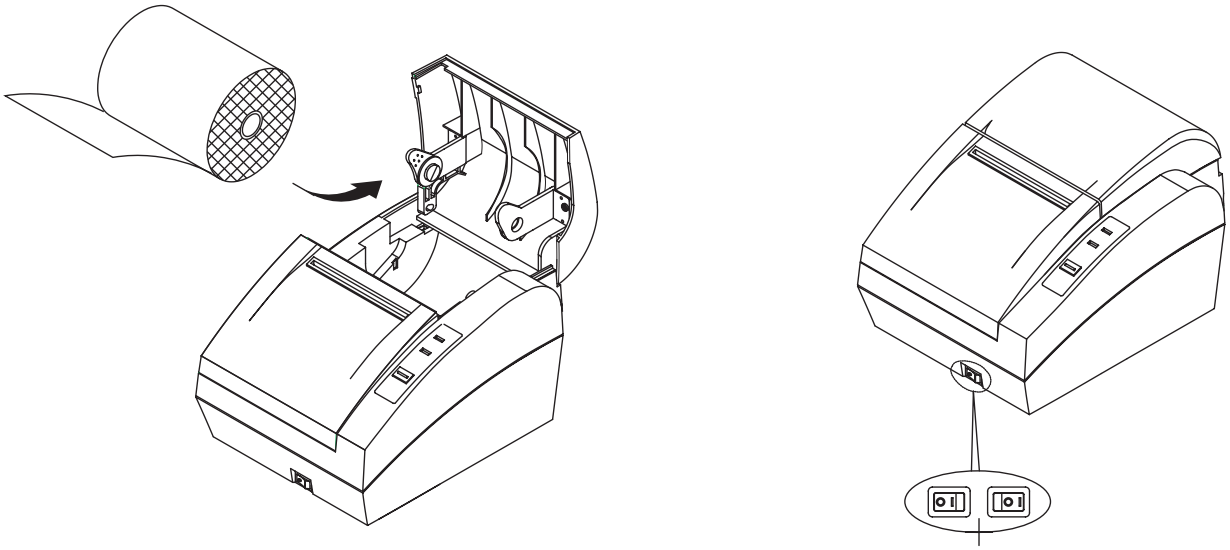
4-4 Insert the paper roll.



4-5 Be sure to note the correct direction that the paper comes off the roll.

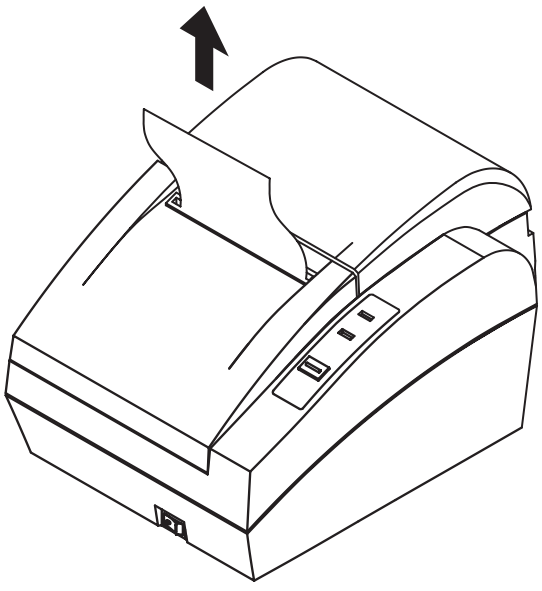


4-6 Close the cover.



※ NOTE
When closing the cover, press the center of printer cover firmly to prevent Paper miss-loading.

4-7 Tear off the paper as shown.



5. Self Test

The self-test checks whether the printer has any problems. If the printer does not function properly, contact your dealer. The self-test checks the following;

5-1 Make sure paper roll has been installed properly.

5-2 Turn on the power while holding down the FEED button. The self-test begins.

5-3 The self-test prints the current printer status, which provides the control ROM Version and the DIP switch setting.

5-4 After printing the current printer status, self-test printing will print the following, and pause.

SELF-TEST PRINTING.
PLEASE PRESS THE FEED BUTTON.

5-5 Press the FEED button to continue printing. The printer prints a pattern using the built-in character set.

5-6 The self-test automatically ends and cuts the paper after printing the following.

***** COMPLETED *****

5-7 The printer is ready to receive data as soon as it completes the self-test.

6. Hexadecimal Dumping

This feature allows experienced users to see exactly what data is coming to the printer. This can be useful in finding software problems. When you turn on the hexadecimal dump function, the printer prints all commands and data in hexadecimal format along with a guide section to help you find specific commands.

To use the hexadecimal dump function, follow these steps:

6-1 Set DIP Switch 2 (sw- 7 = Hex dump mode) of your printer ON position.

6-2 Turn on the power of your printer.

6-3 Run any software program that sends data to the printer. The printer will print all the codes it receives in a two-column format. The first column contains the hexadecimal codes and the second column gives the ASCII characters that corresponds to the codes.

```
1B 21 00 1B 26 02 40 40 40    40       . ! . . & . @ @ @ @
02 0D 1B 44 0A 14 1E 28 28    28       . . . D . . . . ( ( (
00 01 0A 41 0D 42 0A 43 43    43       . . . A . B . C C C
```

- A period (.) is printed for each code that has no ASCII equivalent.
- During the hex dump, all commands except DEL EOT is disabled.

6-4 Close the cover, then the printer enters the hexadecimal dump mode.

6-5 Set DIP Switch 2 (sw- 7 = Hex dump mode) of your printer off position and then hexadecimal mode is off.

7. Specification

Printing method	Thermal line printing	
Dot density	180 X 180 dpi (7dots/mm)	
Printing width	72 mm	
Paper width	80 mm	
Characters per line (default)	42 (Font A) (12 x 24) 56 (Font B) (9 x 24)	
Printing speed	23 lines/sec 75 mm/sec	
Receive Buffer Size	15K Bytes	
※ **NOTE** Printing speed may be slower, depending on the data transmission speed and the combination of control commands.		
Supply voltage	SMPS Input voltage	100~240 VAC
	Frequency	50/60 Hz
	SMPS Output voltage	24 VDC
Environmental conditions	Temperature	5 ~ 40℃(Operating) -10 ~ 50℃(Storage)
	Humidity	30~80%RH (Operating) 10 ~ 90 % RH (Storage) ; Except for paper
LIFE*	Mechanism Head	30,000,000 lines 100 Km
	Auto Cutter	1,000,000 Cuts
Paper	Paper thickness : 0.062 ~ 0.075mm	
	Roll size : : Ø83 mm	
	Roll spool diameter - Inside : Ø12mm (0.47") - Outside : Ø18mm (0.71")	